Remarks

In view of the above amendments and the following remarks, reconsideration of the rejections and further examination are requested.

Claim 7 has been rejected under 35 U.S.C. §112, second paragraph, as being indefinite. Claim 7 has been amended so as to address this rejection. As a result, withdrawal of the rejection under 35 U.S.C. §112, second paragraph, is respectfully requested.

Claims 1, 3-5, 7 and 8 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Kawakami (US 6,332,058), Siong (US 6,028,632) and Haskell (US 5,159,447).

Claims 3 and 4 have been amended so as to include a number of the limitations from claim 1 and to further distinguish the present invention, as recited therein, from the references relied upon in the rejection, and claim 1 has been canceled without prejudice or disclaimer to the subject matter contained therein. Claims 7 and 8 have been amended so as to include a number of the limitations from claim 5 and to further distinguish the present invention, as recited therein, from the references relied upon in the rejection, and claim 5 has been canceled without prejudice or disclaimer to the subject matter contained therein.

The above-mentioned rejection is submitted to be inapplicable to the pending claims for the following reasons.

Kawakami discloses an MPEG server 16 having a core 18 that receives information material (an MPEG stream) 14 and an external controller 24 operable to supply a control signal 26 to the core 18. The MPEG server 16 also includes a number of hard disk drives (HDDs) 20, DMA buffers 30, a time-divisional multiplexing controller 40, gate controllers 32, decoder buffers 34 and decoders 22. (See column 4, line 47 – column 5, line 54 and Figures 1 and 2).

In a recordation operation, the MPEG server 16 receives the control signal 26 indicating that the MPEG server 16 is to record the information material 14. The MPEG server 16 then divides the information material 14 into a number of cells CE each having a size of four bytes. The cells CE are recorded on the HDDs 20 such that the first cell is stored on HDD 20-1, the second cell is stored on HDD 20-2, the third cell is stored on HDD 20-3, etc. Therefore, it is apparent that the information material 14 is split into a number of cells CE and the HDDs 20 are used to store the cells CE in parallel. (See column 5, line 10 – column 6, line 7).

In a reproduction operation, the MPEG server 16 receives a control signal 38 from a CPU group 36 indicating that the MPEG server 16 is to reproduce the information material 14. The

cells CE are read from the HDDs 20 and stored in DMA buffers 30 which respectively correspond to the HDDs 20. The cells CE are written to the DMA buffers 30 in clusters CT, which are larger than the cells CE. The controller 40 then controls the output of the information stored in the DMA buffers 30 such that desired information from each of the DMA buffers 30 is read at a desired time point. The gate controllers 32 operate so as to allow the information output by the DMA buffers 30 under the control of the controller 40 to only be supplied to the appropriate decoder buffer 34. (See column 5, lines 34-37; column 6, lines 46-49; column 7, lines 11-16 and 55-58; and Figures 1 and 2).

Once the information material 14 is properly stored in the decoder buffer 34, it is read out from the corresponding decoder 22 as packets PT and decoded into a video signal VS and an audio signal AS to reproduce the information material 14. (See column 6, lines 42-59 and Figure 2).

Claims 3 and 4 each recite a data extractor for receiving a broadcasting signal and extracting at least audio data and video data which are designated by control information from the broadcasting signal. It is apparent that the present invention, as recited in claims 3 and 4, is different from the device in Kawakami because the broadcasting signal received by the data extractor has a data amount that cannot be controlled at the reception end. Therefore, claims 3 and 4 each recite a buffer and a plurality of separate buffers that are used to control the data amount of the broadcasting signal. On the other hand, in Kawakami, when a data overflow condition occurs, the data overflow condition is dealt with by directly controlling the data amount sent to the DMA buffers 30 by reducing or stopping the transmission of data from the HDDs 20. In other words, Kawakami is capable of controlling the data amount at the reception end (i.e., the HDDs 20) to prevent the DMA buffers 30 from overflowing. As a result, it is apparent that Kawakami does not contemplate the potential problem of handling a broadcasting signal addressed by the present invention, as recited in claims 3 and 4.

Further, in order to cope with the fact that the data extractor is to receive the broadcast signal whose data amount cannot be controlled at the reception end, claims 3 and 4 each recite that the buffer is for storing at least the audio data and the video data extracted by the data extractor and the plurality of separate buffers are for respectively storing at least the audio data and the video data distributed and transferred by a data flow controller according to each data type. Further, each of claims 3 and 4 recites a decoding controller that, upon reception of a

overflow notification that one of the plurality of separate buffers is full, copes with the overflow of the separate buffer by instructing a separate buffer manager to initialize only the separate buffer in the overflow state, while the buffer and the other separate buffers are not initialized and continue to operate in their normal manner. In other words, because the broadcasting signal cannot be stopped on the reception end, even when an overflow has occurred, the present invention, as recited in claims 3 and 4, can minimize the effect of the overflow on the overall operation of the apparatus by continuing to receive the broadcasting signal without initializing the buffer and the other separate buffers, and continuing the processing on the data in the other separate buffers which have not overflowed. Therefore, as admitted in the rejection, Kawakami fails to disclose or suggest the operation of the features of the present invention when a specific separate buffer becomes full of data, as recited in each of claims 3 and 4.

In light of the above, in order for the combination of Kawakami, Siong and Haskell to render claims 3 and 4 obvious, at least one of Siong and Haskell must disclose or suggest the above-mentioned features recited in claims 3 and 4. However, Siong is relied upon as disclosing a separate buffer manager for controlling the outputs of a plurality of separate buffers and does not disclose or suggest the above-discussed features of the present invention as recited in claims 3 and 4.

Regarding Haskell, it does disclose general techniques for dealing with the imminent overflow of a buffer. However, Haskell does not disclose or suggest the specific operations of the elements of claims 3 and 4 when a specific separate buffer becomes full of data. Further, it would not have been obvious to arrive at the specific operations of the claimed elements as discussed above based on the combination of the references set forth in the rejection because Kawakami does not even contemplate the potential problem addressed by the present invention as recited in claims 3 and 4, and instead prevents overflow by controlling the data amount output from the HDDs 20. As a result, claims 3 and 4 are patentable over the combination of Kawakami, Siong and Haskell.

As for claims 7 and 8, they are patentable over the combination of Kawakami, Siong and Haskell for reasons similar to those discussed above in support of claims 3 and 4, respectively. That is, claims 7 and 8 recite features similar to those discussed above with regard to claims 3 and 4 which are not disclosed or suggested by the combination of references set forth in the rejection.

Because of the above-mentioned distinctions, it is believed clear that claims 3, 4, 7 and 8 are allowable over the references relied upon in the rejection. Furthermore, it is submitted that the distinctions are such that a person having ordinary skill in the art at the time of invention would not have been motivated to make any combination of the references of record in such a manner as to result in, or otherwise render obvious, the present invention as recited in claims 3, 4, 7 and 8. Therefore, it is submitted that claims 3, 4, 7 and 8 are clearly allowable over the prior art of record.

In view of the above amendments and remarks, it is submitted that the present application is now in condition for allowance. The Examiner is invited to contact the undersigned by telephone if it is felt that there are issues remaining which must be resolved before allowance of the application.

Respectfully submitted,

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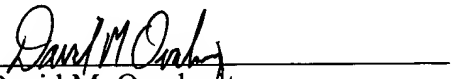
By: 

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